Agricultural tractors and self-propelled sprayers - Protection of the operator (driver) against hazardous substances - Part 2: Filters, requirements and test procedures

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NATIONAL FOREWORD

See Eesti standard EVS-EN 15695-2:2017 sisaldab Euroopa standardi EN 15695-2:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 15695-2:2017 consists of the English text of the European standard EN 15695-2:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 06.09.2017.	Date of Availability of the European standard is 06.09.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 65.060.10

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 15695-2

September 2017

ICS 65.060.10

Supersedes EN 15695-2:2009

English Version

Agricultural tractors and self-propelled sprayers - Protection of the operator (driver) against hazardous substances - Part 2: Filters, requirements and test procedures

Tracteurs agricoles et pulvérisateurs automoteurs - Protection de l'opérateur (conducteur) contre les substances dangereuses - Partie 2 : Filtres, exigences et méthodes d'essai

Landwirtschaftliche Traktoren und selbstfahrende Pflanzenschutzgeräte - Schutz der Bedienungsperson (Fahrer) vor gefährlichen Substanzen - Teil 2: Filter, Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 3 July 2017.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Ref. No. EN 15695-2:2017 E

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European foreword

This document (EN 15695-2:2017) has been prepared by Technical Committee CEN/TC 144 “Tractors and machinery for agriculture and forestry”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2018, and conflicting national standards shall be withdrawn at the latest by March 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 15695-2:2009.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

The EN 15695 series, *Agricultural tractors and self-propelled sprayers – Protection of the operator (driver) against hazardous substances*, consists of the following parts:

— *Part 1: Cab classification, requirements and test procedures;*

— *Part 2: Filters, requirements and test procedures.*

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document is a type C standard as stated in EN ISO 12100.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

— machine manufacturers (small, medium and large enterprises);

— health and safety bodies (regulators, accident prevention organizations, market surveillance etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

— machine users/employers (small, medium and large enterprises);

— machine users/employees (e.g. trade unions, organizations for people with special needs);

— service providers, e.g. for maintenance (small, medium and large enterprises);

— consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate in the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the scope of this European Standard. When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

When operating self-propelled sprayers and tractors the operator can be exposed to hazardous substances such as dust, aerosols or vapours (for example during the application of plant protection products or fertilisers). Cabs of agricultural tractors and self-propelled sprayers providing protection against these substances may be used to reduce operator exposure to air-borne contaminants generated during farming operations.

With regard to the application of plant protection products (PPP) the operator can be exposed to risks:

— before the actual spraying operation (e.g. handling of PPP cans/packages, spray tank filling, sprayer adjustment);

— during the spraying operation (e.g. on the tractor or self-propelled sprayer with/without cab, when working at the sprayer when adjusting the sprayer in the field, removing nozzle blockages, etc.);

— after the spraying operation (e.g. when removing residues, sprayer cleaning, service and maintenance operations).

Protective measures (personal protective equipment (PPE)) are specified on PPP labels today, for example:

— dermal exposure: gloves, overall, apron, headdress (with face protection), protective goggles;

— respiratory exposure: filtering half masks.

The objective of this European Standard is to improve the operator protection by using the protective function of the cab of self-propelled sprayers and tractors in case of mounted or trailed sprayers. For this purpose, Parts 1 and 2 of this European Standard specify cab categories, performance requirements, test procedures and the operator information to be provided, in particular with regard to installation, use and maintenance operations.

1 Scope

This European Standard is applicable to filters as part of cabs of categories 2, 3 and 4 of agricultural and forestry tractors and self-propelled sprayers as specified in EN 15695-1 in order to limit the exposure of the operator (driver) to hazardous substances, in agricultural and forestry operations. It specifies requirements, test procedures and the information to be provided by the filter manufacturer.

This standard does not cover:

— the exposure linked to fumigants;

— the category of cab and performance level to be used for any particular application;

— the actual cab performance in the field applications;

— field durability of filters or filtration systems.

This document is not applicable to filters which are manufactured before the date of its publication as EN.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 143:2000, *Respiratory protective devices - Particle filters - Requirements, testing, marking*

EN 1822-2:2009, *High efficiency air filters (EPA, HEPA and ULPA) - Part 2: Aerosol production, measuring equipment, particle counting statistics*

EN 1822-5:2009, *High efficiency air filters (EPA, HEPA and ULPA) - Part 5: Determining the efficiency of filter elements*

EN 12941:1998, *Respiratory protective devices - Powered filtering devices incorporating a helmet or a hood - Requirements, testing, marking*

EN 14387:2000, *Respiratory protective devices — Gas filter(s) and combined filter(s) — Requirements, testing, marking*

EN 15695-1:2017, *Agricultural tractors and self-propelled machinery — Protection of the operator (driver) against hazardous substances — Part 1: Cab classification, requirements and test procedures*

ISO 12103-1:2016, *Road vehicles — Test contaminants for filter evaluation — Part 1: Arizona test dust*

ISO 14269-4:1997, *Tractors and self-propelled machines for agriculture and forestry — Operator enclosure environment — Part 4: Air filter element test method*

3 Requirements and test procedures

3.1 Dust filter

3.1.1 Requirements

The air delivery system filter shall have a performance of ≥ 99 % gravimetric efficiency when tested as specified in 3.1.2.